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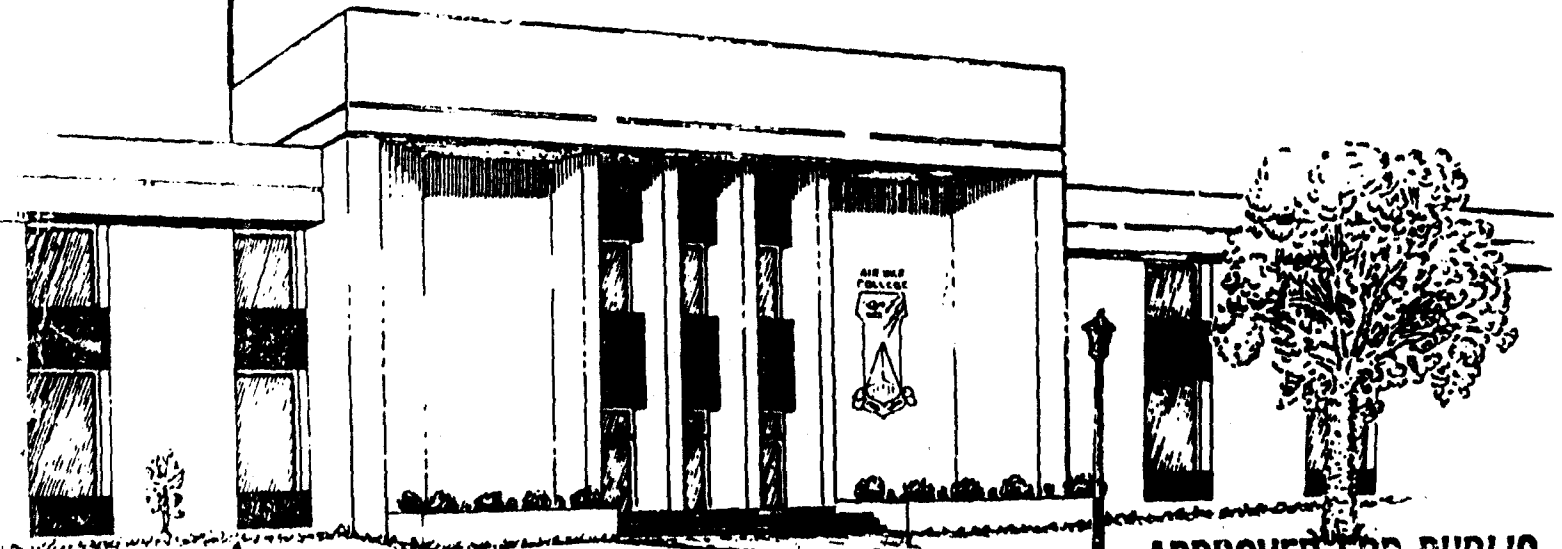
RESEARCH REPORT

IMPACT OF INCREASED UNDERGRADUATE
PILOT TRAINING (UPT) ACTIVE DUTY SERVICE COMMITMENT
ON THE AIR NATIONAL GUARD (ANG)

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UNITED STATES AIR FORCE
MAXWELL AIR FORCE BASE, ALABAMA

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IMPACT OF INCREASED UNDERGRADUATE PILOT TRAINING (UPT)
ACTIVE DUTY SERVICE COMMITMENT ON THE AIR NATIONAL GUARD (ANG)

by

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A RESEARCH REPORT SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE RESEARCH
REQUIREMENT

Research Advisor: Colonel James E. Pierce

MAXWELL AIR FORCE BASE, ALABAMA

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AIR WAR COLLEGE RESEARCH REPORT ABSTRACT

TITLE: Impact of Increased Undergraduate Pilot Training
(UPT) Active Duty Service Commitment on the Air
National Guard (ANG)

AUTHOR: Edwin B. Kuempel, Lieutenant Colonel, ANG

The United States Air Force (USAF) may increase the service obligation for UPT graduates to nine years. If approved, USAF pilots will have approximately 11 years active duty prior to being eligible to separate. A more significant depletion of ^{Air National Guard} (ANG) pilot accession resources will occur with the loss of former USAF pilots who have separated with approximately eight to 11 years of active duty. How will the ANG be affected? Will the rank structure change appreciably in the rated inventory? Will the current rated experience level in the ANG drop significantly? Is sufficient training available to offset the lack of active duty accessions? (SUI) ₄

BIOGRAPHICAL SKETCH

Lieutenant Colonel Edwin B. Kuempel (B.Ed., University of Miami) has been involved in ANG pilot recruiting, training, and evaluating since being assigned to the 167th Tactical Airlift Group (TAG), West Virginia ANG, in 1972. While in the USAF, he performed aircraft commander duties in both the C-130E and KC-135A aircraft. He has accrued in excess of 8600 military flight hours experience and has an extensive background in the air refueling and tactical airlift business. His most recent assignments were as Director of Training (DOT), Chief of Aircrew Standardization (DOV), and Director of Operations (DO) for the 167th TAG. He has completed Squadron Officer School and Air Command and Staff College by correspondence. Lieutenant Colonel Kuempel is a graduate of the Air War College, class of 1988.

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CHAPTER I

INTRODUCTION

The ANG Commitment

The Air National Guard is truly a partner in the scheme of "Total Force" (TF). This partnership, established in consonance with the United States Air Force and the United States Air Force Reserve (USAFR), provides our joint military fighting forces and civilian leadership with the necessary air muscle to prosecute our nation's national interests.

To provide this TF capability to the national leadership, the ANG must continue to acquire, train and maintain sufficient numbers of dedicated personnel. Within the spectrum of authorized ANG personnel, the unit mission trained pilot is the most expensive resource to procure, train and maintain. The dynamics of the ANG pilot equation is ever changing and is affected by such variables as civilian employment of the ANG pilot, the unit mission, the unit location, and the ANG selective retention process.

In addition, insidious changes to Air Force manpower regulations continually "tweak" the personnel process and apply subtle pressures to the ANG manpower recruiting effort. An insignificant change to a manpower regulation of today, by itself or in combination with other circumstances,

could become a mammoth stumbling block of tomorrow. Unless these potential problems are identified and proper corrective actions taken, the ANG of today might not be capable of fulfilling future manpower commitments and challenges of tomorrow.

For these reasons this research endeavor, to study the impact of how increased Undergraduate Pilot Training active duty service commitment would effect the ANG pilot force, was initiated.

CHAPTER II

RESEARCH BACKGROUND PROPOSITION

Questions, Facts, Characteristics

On 15 June 1988, the USAF will increase the incurred service obligation for UPT graduates to eight years. When implemented, USAF pilots will have approximately 10 years active duty Air Force service prior to being eligible to separate.

Questions

How will the ANG pilot force be affected by the delayed pilot release from active duty Air Force? Will the ANG pilot rank structure appreciably change? Will current ANG pilot experience level decline? Is sufficient training available to offset the loss of active duty Air Force pilot accessions to the ANG?

Before we seek answers to these questions, let us establish certain facts concerning the ANG pilot manpower situation and explore the general characteristics of a typical ANG flying unit.

Facts

The ANG is a very stable military force in being with very consistent manpower end strengths. Since the ANG is not establishing any new flying units, a surge recruiting effort for pilots is not required. However, some ANG units

may require additional pilots during robusting activities, when changing assigned aircraft missions, and/or changing Primary Aircraft Authorization (PAA).

Characteristics

The typical ANG flying unit is of squadron size with approximately 24-36 authorized pilot positions depending upon the type of authorized aircraft, specified pilot crew ratios, and the number of PAA. Approximately eight or more additional Group or Wing Headquarters authorized pilots are attached to the squadron for flying. Some units have been robusted with additional aircraft and thus are authorized additional pilot positions.

Most ANG flying units require their assigned pilots to reside within the local community or within an easy commuting distance so that they are available to participate in routine proficiency training flights, fulfill unit mission alert commitments, and adequately respond to National Command Authority (NCA) mobilization requirements.

CHAPTER III

GROOMING THE ELITE

Pilot Acquisition Costs

Most ANG flying units contain a diversified cross section of pilot flight experience ranging from the most experienced pilot with many thousands of flight hours down to the recent UPT and Combat Crew Training School (CCTS) graduate. All ANG flying units continually build their pilot force from the bottom through UPT input even though this is the most costly process of maintaining the force. This is done to inject a cross section of new experience with less rank into the unit and prevent block seasoning and rank stagnation of pilots at the senior levels. Historically, most ANG flying units utilize approximately two UPT authorizations per Fiscal Year (FY).

"The military trained pilot is the most expensive human resource produced in the free world; a possible exception is that of pilot astronaut. By using FY 1980 dollars, the cost of UPT had soared to \$256,000. Although frequently cited as the cost to train a pilot, UPT cost is only a fraction of the total outlay to produce a fully trained and experienced combat ready pilot." (7-9) "Once again using FY 1980 dollars, the average cost of an experienced C-130 aircraft commander was calculated at

\$1,756,909, the average cost of a C-141 aircraft commander totalled \$3,813,331, and the average cost of a C-5 aircraft commander was \$5,072,152." (7-11) "A fully trained and experienced mission ready F-4E fighter pilot cost \$2,735,283. The cost of a Strategic Air Command (SAC) bomber or tanker pilot, while not calculated, would be roughly comparable to Military Airlift Command (MAC) pilot training and experiencing costs. In late 1983, the MAC pilot costing formula was run once again. The costs had remained stable over the four years due to the decline in fuel prices. The C-130 pilot still cost just over \$1.7 million, the C-141 pilot cost had increased slightly to \$3.9 million and the C-5 pilot cost ranged between \$4.6 million and \$6.4 million depending upon from what aircraft the pilot had transitioned to the C-5." (7-14)

"It is not as cost effective for the Air Reserve Forces (ARF) to send pilot candidates to UPT. It is to the advantage of both the active Air Force and the ARF that the ARF has a pilot pipeline through the active Air Force." (7-52)

That last statement is true; however, the ARF needs UPT input to inject a cross section of new pilot experience with less rank into their units to prevent block seasoning and rank stagnation of pilots at the senior levels.

CHAPTER IV
PILOT PROCESS CONTINUUM

USAF Pilot Bailout

Since the end of World War II, the USAF has experienced periodic surpluses and shortages of experienced pilots. By USAF standards, pilots with between six and 11 years of service reflect the most desired, average experience pilot values. Air Force pilot continuation rates for the six through 11 year group are indicated in Table 1 (see page 8), and reflect the broad historical experience and trend.

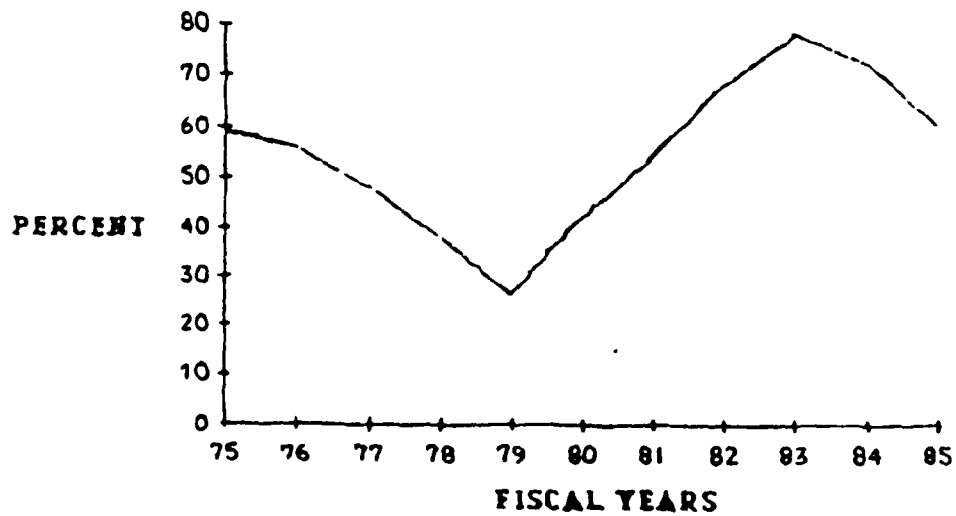
Cumulative continuation rates (CCR) develop specific frequency of activity into percentage rates and are regarded as the best index of retention. The CCR chart in Table 2 (see page 9), depicts short term USAF pilot retention percentages by command and system for the six through 11 years of service group. To maintain the pilot force, the USAF needs a CCR of about sixty percent, and the FY 86-87 overall rate is running much lower than that. "The USAF fiscal 1987 pilot retention rate was 48 percent and remained unchanged during the first quarter of fiscal 1988." (2)

"The nation's commercial airlines will be hiring 4,000 to 5,000 pilots per year for the next 10 years." (1)

"It is very convenient to blame the USAF's current pilot

TABLE 1

**AIR FORCE PILOT CONTINUATION RATE
(6-11 YEAR GROUP)**



SOURCE: HQ MAC/DPXPA

TABLE 2
CUMULATIVE CONTINUATION RATE CHART

THE SLIDE IN PILOT RETENTION

Retention Percentages by Command and System

	FY '83	FY '84	FY '85	FY '86	FY '87
By Major Command					
ATC	70	61	47	40	37
MAC	79	66	49	46	39
PACAF	91	86	86	89	80
SAC	76	77	60	55	48
TAC	80	73	59	54	43
USAFE	88	87	87	72	74
Air Force Total	78	72	59	56	48
By Weapon System					
Fighter	80	79	68	63	55
Trainer	65	46	36	66	31
Bomber	76	79	72	51	58
Tanker	76	74	56	50	36
Strategic Airlift	73	63	41	41	32
Tactical Airlift	82	71	53	52	46
Helicopter	82	68	81	82	69
Pilot Total	76	72	59	56	48

These are cumulative continuation rates (CCR) for USAF pilots with between six and eleven years of service. The CCR percentage is regarded as the best index of retention. To maintain the pilot force, USAF needs a CCR of about sixty percent—and the overall rate is running lower than that.

SOURCE: Air Force Military Personnel Center

retention problem on the nation's commercial airlines' continuing and long-term need for military-trained pilots; however, the major reason for the current pilot 'bailout' of the Air Force is pilot dissatisfaction with the service's senior leadership institutionalization of the current officer career development program and pilot excessive diversions away from flying." (5)

"One proposal offered to stem the pilot 'bailout' is an officer professional development program which will keep pilots in the cockpit longer and will delay career broadening until after promotion to the rank of major." (3)

"Another approach to stop the immediate USAF pilot attrition is to increase the flight pay compensation for pilots and to offer pilot aviation bonuses. A USAF twelve thousand dollar per year aviation bonus proposal for pilots is currently under study." (1)

Another "band-aide" pilot force management device currently being utilized is the Voluntary Reserve Officer Recall Program. "The purpose of this program is to return highly qualified and experienced mid level pilot officers to the service through a four year active duty service commitment." (4)

"If this latest array of token fix-it solutions fail to stem the USAF pilot exodus, the initial service obligation for pilots is likely to be raised to nine years

by the mid 1990s." (6) In any event, the ARF should continue to benefit from the ever increasing numbers within the highly experienced, prior service trained, pilot pool.

CHAPTER V
TO CAPTURE THE PILOT RESOURCE

ANG Unit Pilot Stresses

When a prior service experienced pilot separates from active duty, his first immediate concern is that of future employment. The type and location of the individual's immediate employment often dictates his attempts to join an ANG or USAFR flying unit. Most ANG flying units require, as condition of becoming a member of the unit, that the prospective aviator reside within the local community or within easy commuting distance of the unit so that the individual is available to participate in frequent proficiency training flights. The sophistication and complexity of today's ANG modern weapon systems demand high frequency pilot proficiency training. If the prospective unit pilot cannot meet these training demands, his flight proficiency becomes suspect, his interest in the unit wanes, and he becomes a lost resource.

Matching the prior service trained pilot to the available ANG flying position is often hampered by additional forces in competition for the same resource. The recruiting efforts of USAFR, other ANG units, and the competitive pilot hiring practices of the nation's airline

industry complicate the ANG prior service pilot acquisition process.

The only time there is a significant deviation from ANG standard pilot recruiting and attrition rates is when a unit is robusted with additional aircraft authorization or the unit is upgraded to a newer weapon system.

ANG units upgrading to a newer or different weapon system are often faced with a more dynamic pilot retention and recruiting challenge. The classic examples of such change were the ANG units that converted from the O-2 to C-5, the C-130 to C-141, and the F-4 to the F-16. Two of these cited examples required large numbers of additional trained pilots, whereas the remaining example required a draw down of assigned pilots.

Many times, unit pilot resistance to change aircraft or missions complicates the ANG pilot force equation. ANG pilots sometimes express deep concern over the extensive training time demanded to initially qualify in the new weapon system, to maintain adequate proficiency in the new weapon system, and then comply with the mission demand imposed by the new weapon system.

An example of new mission imposed demand would be reflected in the tactical airlift role of the C-130 changed to the strategic airlift role of the C-141 or C-5. Another example of new weapon system discord focused around the crew

concept of the F-4 versus the single seat aspect of the F-16 or F-15.

Many unit pilots elected not to convert to the new--more training intensive--weapon system, thus exacerbating the pilot recruiting demand above those already needed by the authorized and increased pilot crew ratio of some of the new weapon systems.

CHAPTER VI

FLYING COMMUNITIES

ANG Equipment And Missions

Within the ANG there are four distinct and separate flying communities represented by unique weapon systems and missions. These four communities are: airlift, fighter, tanker, and helicopter. Each of these communities reflect certain types of aircraft, unit missions, pilot qualifications, and training requirements.

Within each unit of each community a distinct prior service pilot recruiting profile is apparent. As an example, an F-4D unit specializing in the air-to-ground mission would be more likely to try to recruit an A-10 or A-7 pilot rather than an F-15 or F-16 pilot with air-to-air experience. A C-130 unit would be more apt to try to recruit a C-141 or KC-135 pilot, rather than a fighter community pilot.

The two most important pilot recruiting considerations running across the entire ANG unit pilot recruiting spectrum centered on the prospective pilot's domicile--which equated to his availability for unit participation--and the community type aircraft experience of his background: airlift, fighter, tanker, or helicopter.

Airlift

Within the airlift community, C-5 units would seek prior service C-5 pilots followed in order by C-141, C-130, KC-10, and KC-135 pilots. C-141 units would seek prior service C-141 pilots followed in order by C-5, C-130, KC-10 and KC-135 pilots. C-130 units would seek prior service C-130 pilots followed in order by C-141 and KC-135 pilots.

Fighter

Within the fighter community, units would most often hope to recruit prior service pilots with unit aircraft experience followed in close order by pilots with the same type mission experience. An example of this would be an A-7 unit hoping to recruit prior service A-7 pilots (Navy A-7 pilots) followed by F-4D and A-10 pilots.

Tanker

Within the tanker community, units would most often hope to recruit prior service KC-135 pilots followed by KC-10 and B-52 pilots.

Helicopter

ANG helicopter units would most often only recruit prior service helicopter pilots since there is such a dramatic difference between the fixed wing and rotor community.

CHAPTER VII

DATA PROCESSING

ANG Historical Perspectives

During a personal interview, which I conducted with 80 out of 92 ANG operational flying unit representatives, several historical ANG pilot recruiting preferences and perspectives were established. This data is presented in descending order of pilot recruiting importance:

- a. Fifty-eight out of 80 units polled, or 73 percent, required their pilots to reside within the unit's established local community or commuting distance.
- b. Fifty out of 80 units polled, or 63 percent, would not recruit pilots with senior captain rank or higher.
- c. Thirty-five out of 80 units polled, or 44 percent, required pilot recruits to have unit PAA flight experience.
- d. Twenty-six out of 80 units polled, or 33 percent, required pilot recruits to have high time community flight experience: airlift, fighter, tanker or helicopter.

Additional historical data of importance:

- a. The 80 units polled reflect an existing pilot vacancy rate of 1.46 pilots per unit.
- b. The 80 units polled reflect an anticipated vacancy rate for FY 1988 of 1.40 pilots per unit.

c. The 80 units polled reflect an anticipated vacancy rate for FY 1989 of 1.36 pilots per unit.

d. The 80 units polled reflect a FY 1987 actual UPT input of 2.27 pilots per unit.

e. The 80 units polled reflect a FY 1988 anticipated UPT input of 1.98 pilots per unit.

f. The 80 units polled reflect a FY 1987 actual recruitment of 2.35 prior service Air Force experienced pilots per unit.

g. The 80 units polled reflect a FY 1988 anticipated recruitment of 1.45 prior service Air Force experienced pilots per unit.

Note: The additional historical data of importance has not been factored for unknown values such as unannounced unit aircraft conversions, unit robusting, UPT washout rates, and the fighter aircraft recommendation process associated with UPT.

Note: The additional historical data of importance is included to demonstrate the overall stability of the total ANG pilot force. The data shows how small the need is, within the ANG, for prior service trained Air Force pilots and UPT input.

CHAPTER VIII

CONCLUSION

ANG Pilot Recruiting Prognosis

The overall stability of the ANG pilot force is the key to its success. Since it is a mature force in being, ANG pilot attrition is most often only affected by selective retention retirement, medical disqualification, or an individual pilot's relocation process due to his civilian employment.

ANG flying units utilize a combination of UPT and recruitment of prior service trained pilots to fill unit pilot vacancies.

Data generated from this research endeavor indicates that most ANG units require their pilots to reside within their unit's established local commuting area, and that the pilot candidate must be of junior captain rank or less. These two factors drive the ANG's consistent need for UPT input instead of utilizing available prior service trained pilot resources.

How will the ANG pilot force be affected by delayed pilot release from the active duty Air Force? Since the ANG is a stable force in being with consistently slow upward and downward pilot attrition rates, a one year delayed pilot release from active duty Air Force should have little if any

impact upon the ANG pilot force. The ARF can only accept a small percentage of available prior service Air Force trained pilots. If the USAF does not make necessary institutional officer professional development changes to stem the exodus of experienced pilots, the available pool of prior service trained pilots will increase dramatically for the benefit of the ARF.

Will the ANG pilot rank structure appreciably change by delayed pilot release from the active duty Air Force? The ANG pilot rank structure should not appreciably change by a one year delayed pilot release from the USAF. Sixty-three percent of the ANG units polled during this study indicated they would not recruit pilots with senior captain rank and higher; however, during isolated incidences of unit robusting and upgrade of PAA equipment, more senior pilot personnel may be recruited into specific units to increase the existing pilot experience level in the new PAA weapon system or mission.

Will current ANG pilot experience level decline? The current ANG pilot experience level should not decline because of the one year delayed pilot release from USAF. All ANG flying units continually build pilot experience from the bottom through the UPT program and control the loss of experienced pilots out the top by properly managing the selective retention program. Because of the long lead

training times of UPT and CCTS, most units recruit and utilize a small number of prior service trained pilots to fill the unit's immediate middle experienced pilot gap.

Is sufficient training available to offset the delayed active duty pilot accessions to the ANG? Yes, sufficient training should be available to offset the delayed active duty pilot accessions to the ANG. Adequate lead times are available to forecast and fund additional training, if needed.

In sum, the ANG pilot force represents a dynamic equation of pilot experience. All units try to maintain a nucleus of PAA experienced pilots which provide the necessary leadership to prosecute the wartime mission. ANG pilot unit end strengths reflect a combination of UPT input and prior service pilot recruitment. Future Air Force increase of the incurred service obligation for UPT graduates to eight years should have little impact on the ANG pilot force.

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GLOSSARY

ANG	Air National Guard
ARF	Air Reserve Forces
CCR	Cumulative Continuation Rates
CCTS	Combat Crew Training School
DO	Director of Operations
DOT	Director of Training
DOV	Aircrew Standardization
FY	Fiscal Year
MAC	Military Airlift Command
NCA	National Command Authority
PAA	Primary Aircraft Authorization
SAC	Strategic Air Command
TAG	Tactical Airlift Group
TF	Total Force
UPT	Undergraduate Pilot Training
USAF	United States Air Force
USAFR	United States Air Force Reserve